

### **REMARKS**

Claim 45 is amended. New claims 65-66 are added. Claims 45-52 and 65-66 are pending in the application.

Claims 45, 48 and 49 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yuan (U.S. Patent No. 5,534,456). The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. As amended, independent claim 45 recites forming a coating over a pair of adjacent blocks, and selectively removing coating from across a gap between the adjacent blocks while leaving coating along sidewalls and on an upper surface of each of the pair of adjacent blocks. Claim 45 additionally recites that the pair of blocks and coating together define a pair of enlarged blocks and implanting dopant within the semiconductive substrate material while the enlarged blocks remain over the semiconductive substrate material and removing the enlarged blocks. The amendment is supported by the specification at, for example, Fig. 5 and paragraph 74. The Examiner indicates at page 2 of the present Action that Yuan discloses selective removal of coating which leaves coating along sidewalls and elevationally over a pair of adjacent blocks, referring to spacers 89 and 91. Directing attention to Fig. 9, for example, applicant notes that spacers 89 and 91 disclosed by Yuan extend upwardly along sidewalls of material 85 which overlies material 79. Accordingly, Yuan does not disclose the claim 45 recited selectively removing coating while leaving coating along sidewalls and on an upper surface of each of a pair of adjacent blocks.

At page 3 of the present Action the Examiner indicates, with reference to Fig 10A-C, that Yuan discloses removing enlarged blocks from over the semiconductive substrate

material. However, the Examiner has previously indicated that the “enlarged blocks” are considered to be inclusive of spacers and material 79 (see Action at page 2). Directing attention to Figs. 10A-C of Yuan, applicant notes that material 79 is retained in such structure as well as in subsequent structures. Accordingly, Yuan does not disclose the claim 45 recited removing the enlarged blocks from over the semiconductor substrate material.

Independent claim 45 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chung (U.S. Patent No. 6,750,150; as combined with Yu (U.S. Patent No. 6,180,468); or over the combination of Chung and Yu in further view of Iwamatsu (U.S. Patent No. 5,440,161). The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Each of these three factors must be shown in order to establish a *prima facie* case of obviousness, the burden of which is upon the Examiner. Independent claim 45 is allowable over the cited combinations of Chung, Yu and Iwamatsu for at least the reasons that the references, individually or in combination, fail to disclose or suggest each and every element of the claim, and fail to provide motivation for combination.

Chung discloses formation of a block of material 130, forming a coating 150 over the block to enlarge the block to produce a pattern, and subsequently transferring a pattern to an underlying layer 110. Chung indicates that the aim of the invention is to produce a narrowed or reduced dimension of space between patterned features for the underlying

layer 110 (col. 4, ll. 27-32, Figs. 3A and 3B and col. 1, ll. 35-40). As acknowledged by the Examiner at page 4 of the present Action, Chung does not disclose or suggest implanting at least one dopant within semiconductive substrate material to form a doped region and removing the enlarged blocks. The Examiner indicates reliance upon Yu as disclosing implanting dopant within semiconductive material while enlarged blocks remain over the semiconductive substrate material and removing the enlarged blocks. The Examiner further indicates that it would be obvious to implant through narrowed blocks of Chung in order to form a sublithographic feature because Yu discloses implanting through narrowed gaps.

Applicant notes that the Yu disclosure indicates removing spacers 32, 34 after implanting dopant. Claim 45 specifically indicates that enlarged blocks are defined by coating material and underlying patternable material blocks. The removal of sidewall material 32 and 34 as referred to by the Examiner therefore does not disclose or suggest the claim 45 recited removing of enlarged blocks where the enlarged blocks include both coating material and underlying patternable material. Accordingly, the combination of Chung and Yu fails to disclose or suggest the claim 45 recited formation of enlarged blocks followed by implanting of at least one dopant and subsequent removing of the enlarged blocks.

Applicant additionally notes that the Yu disclosure specifically forms features separated by a gap, narrowing the gap, implanting dopant and re-widening the gap while retaining the features. In contrast, Chung specifically indicates utilizing block widening to transfer a pattern for formation of enlarged/widened features to produce a more narrow gap between the features in the final structure. There is no motivation provided in either

Chung or Yu “to implant through the narrowed blocks of Chung” as suggested by the Examiner. Further, the underlying material within the gap as disclosed by Chung is removed during the pattern transfer. Motivation for implanting dopant into such material is therefore lacking. The only suggestion or motivation for the claim 45 recited forming of enlarged blocks (defined by patternable material and coating over the patternable material), implanting dopant and removing the enlarged blocks is applicant’s own specification.

As indicated at pages 6-7 of the present action, Iwamatsu is relied upon as disclosing formation of isolation gates. As acknowledged by the Examiner at page 7 of the action, Iwamatsu does not contribute toward suggesting the claim 45 recited formation of a pair of enlarged blocks, implanting dopant within semiconductive material to form a doped region and removing the enlarged blocks. Accordingly, the combination of Chung, Yu and Iwamatsu fails to disclose or suggest each and every element in claim 45 and fails to provide motivation for combination. A *prima facie* case of obviousness therefore has not been established.

Dependent claims 46-52 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various cited combinations of Chung, Yu, Iwamatsu and DeJule “Paths to Smaller Features” (website). As discussed above, independent claim 45 is allowable over the combination of Chung, Yu and Iwamatsu. As indicated by the Examiner at page 6 of the present Action, DeJule is relied upon as disclosing a utilization of a coating material. However, the specific coating material disclosed by DeJule does not teach or suggest, or contribute toward suggesting the claim 45 recited formation of enlarged blocks, implanting dopant into semiconductive material while the enlarged blocks are over the semiconductive

material and removing the enlarged blocks. Accordingly, independent claim 45 is not rendered obvious by Chung, Yu, DeJule and Iwamatsu. Dependent claims 46-52 are allowable over the various cited combinations of Chung, Yu, DeJule and Iwamatsu for at least the reason that they depend from allowable base claim 45.

New claims 65 and 66 do not add "new matter" to the application since each is fully supported by the specification as originally filed. Claims 65 and 66 are supported by the specification at, for example, Fig. 8 and paragraphs 68 and 81.

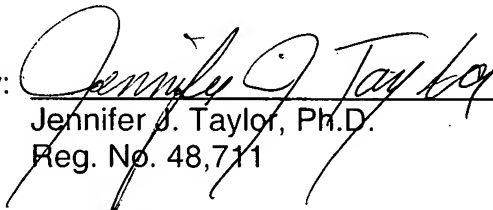
For the reasons discussed above, claims 45-52 are allowable and claims 65-66 are believed allowable. Accordingly, applicant respectfully requests formal allowance of pending claims 45-52 and 65-66 in the Examiner's next action.

Respectfully submitted,

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